

MIL Grade High Power Amplifier

This is a high power, broadband, Gallium Nitride (GaN) RF amplifier that operates from 500 MHz to 3.0 GHz, ideal for broadband military platforms as well as commercial applications. This amplifier was designed for broad band communication systems platforms. This amplifier has a minimum P3dB of 50 watts at room temperature. Output power is typically 100 watts across the band. Noise figure at room temperature is 11.0 dB typical. This amplifier offers a typical gain of 35 dB with a typical gain flatness of ± 2.5 dB. The power and gain flatness across the band is extremely flat for the bandwidth. Input and Output VSWR is 2.0:1 maximum. This amplifier operates from -40C to +85C base plate temperature.



- Solid-state Class AB linear design
- Instantaneous ultra broadband
- Small and lightweight
- Suitable for CW, AM, and FM
(Contact factory for other modulation types)
- 50 ohm input/output impedance
- High reliability and ruggedness
- Built-in control, monitoring and protection circuits

Electrical Specifications					
PARAMETER	SYMBOL	MIN.	TYP.	MAX	UNITS
Operating Frequency	BW	500		3000	MHz
Output Power CW	P _{SAT}	50			Watt
Small Signal Gain	G _{SS}	46	48		dB
Input Power for Rated P _{SAT}	P _{IN}		0		dBm
Switching Time @ 1kHz TTL , P _{IN} = 0 dBm	T _{ON/OFF}		2	5	uSec
Small Signal Gain Flatness	ΔG_{SS}			± 1.5	dB
Third Order Intercept Point 2-Tones, 33dBm/Tone., $\Delta = 100$ KHz	IP3	+48	+53		dBm
Input Return Loss	S ₁₁			-10	dB
Noise Figure	NF			11.5	dB
Harmonics @ P _{OUT} = 20W	H	-20		-13	dBc
Spurious Signals	Spur	-70		-60	dBc
Operating Voltage	V _{dc}	26	28	30	Volt
Quiescent Current	I _{DQ}		2.0		Amp
Current consumption @ Shutdown	I _{SD}			400	mA



ZHM500-3000/50

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Current consumption @ $P_{OUT} = 50W$	I_{DD}			6.0	Amp
Output Power @ 1dB Gain Compression	P_{1dB}		20		Watt

Mechanical Specifications			
PARAMETER	VALUE	UNITS	LIMITS
Dimensions	3.5" X 7.5" X 1.0"	Inch	Max
Weight	1.0	lb	Max
RF Connectors In/Out	SMA Female		
DC Connectors			
Cooling	External Heatsink (Not Supplied)		